

# Work Order ID 77165

**\*77165\***

Page 1

November-28-11 8:59:37 AM

Item ID: D412-698-027 Accept **\*N900040100\*** Setup Start **\*NS1\***  
 Revision ID: Stop **\*NS2\***  
 Item Name: Bracket Assembly, LH (Aluminum Doors)  
 Start Date: 28/11/2011 Start Qty: 1.00 **\*1\*** Cust Item ID:  
 Required Date: 12/12/2011 Req'd Qty: 1.00 **\*1\*** Customer:  
 Reference:

Approvals: Process Plan: M.L.J Date: 11/11/28 Tooling: \_\_\_\_\_ Date: \_\_\_\_\_ Run Start **\*NR1\***  
 QC: \_\_\_\_\_ Date: \_\_\_\_\_ SPC (Y/N): \_\_\_\_\_ Date: \_\_\_\_\_ Stop **\*NR2\***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
<b>Draw Nbr</b>	<b>Revision Nbr</b>	<b>*SP*</b>							
DSI 9484	<b>B C</b>	<b>11.11.28</b>							
100		0.00							
<b>*100*</b>									
DC	<b>Memo</b>	0.00							
Document Control	Photocopy bluefile & type labels per PPP D412-698-027/ DSI9484 CHG003								
110	Pick Kit	0.00							
<b>*110*</b>									
Packaging	<b>Memo</b>	0.00							
Packaging									
120	QC4- 100% Inspect kits for completeness	0.00							
<b>*120*</b>									
QC	<b>Memo</b>	0.00							
Quality Control									

*W 12-02-22 (1)*  
*22 for MLJ 12-2-22*

*SP 11-02-22*

*W 12-02-22 (1)*

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries

**Work Order ID 77165****\*77165\***

Page 2

November-28-11 8:59:37 AM

Item ID: D412-698-027

Accept

**\*N900040100\***Setup Start **\*NS1\***

Revision ID:

Stop **\*NS2\***

Item Name: Bracket Assembly, LH (Aluminum Doors)

Start Date: 28/11/2011 Start Qty: 1.00

**\*1\***

Cust Item ID:

Required Date: 12/12/2011 Req'd Qty: 1.00

**\*1\***

Customer:

Reference:

Approvals: Process Plan: \_\_\_\_\_ Date: \_\_\_\_\_ Tooling: \_\_\_\_\_ Date: \_\_\_\_\_

Run Start **\*NR1\***

QC: \_\_\_\_\_ Date: \_\_\_\_\_ SPC (Y/N): \_\_\_\_\_ Date: \_\_\_\_\_

Stop **\*NR2\***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
130		0.00							
<b>*130*</b>									
Packaging	Memo	0.00							
Packaging	Identify and pack for shipping as per PPP D412-698-027/ DSI 9484								
	Location: <u>32</u>								
	PPP rev: <u>B</u>								
140	QC21- Final Inspection - Work Order Release	0.00							
<b>*140*</b>									
QC	Memo	0.00							
Quality Control									

pb/20 f

HJ M.L.J 12/02/22

MF 12-02-22

**Dart Aerospace Ltd**

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries

# Picklist Print

November-28-11 8:59:40 AM

Page 1

Work Order ID: 77165

**\*77165\***

Parent Item: D412-698-027

**\*D412-698-027\***

Parent Item Name: Bracket Assembly, LH (Aluminum Doors)

Start Date: 28/11/2011

Required Date: 12/12/2011

Start Qty: 1.00

Required Qty: 1.00

**Comments:**

IPP RevA: new issue DD 09.11.30 verified by:EC  
11.03.31 AS PER ECN11-531 verified by:EC

IPP Rev:B

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Total Qty	Qty Issued	Date Issued	Status
---------------------------------	------------------------	---------------	-------------	---------------------	------------------	-----------------	--------------------	----------------	-------------	--------------	---------------	----------------	--------

D3199-3		Manufactured	No			110	Each	3.0000	1	1			
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**\*D3199-3\***

Bracket, Fwd LH

\*\*

377361 1K

SP 12-02-22.

Location

Loc Qty

Loc Code

ST236B

3

69571

2

71785

1

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries

# DART SERVICE INSTRUCTION

TO AMEND INSTALLATION INSTRUCTIONS IIN-D412-698 REV. E OR LATER APPROVED REVISION  
AND ICA-D412-698 REV. 5 OR LATER APPROVED REVISION

REF. TCCA STC: SH92-43  
REF. FAA STC: SR01446NY  
REF. EASA.IM.R.S.00709

Field experience has shown that the forward D3199-1 brackets that are part of the D412-698-011/-012/-017 Cabin Door Roller Kits and forward D3675-1 brackets that are part of the D412-698-031/-032/-033 Cabin Door Roller Kits may wear prematurely if the aircraft is flown a significant amount of time with the sliding doors open. Dart has developed the D412-698-027/-028 kits that includes a longer D3199-3/-4 bracket for installation in the first forward position of the D412-698-011/-012/-017 kits to reduce wear on these forward brackets on aircraft equipped with aluminum doors. Likewise, Dart has developed the D412-698-037/-038 kits that includes a longer D3675-5/-6 bracket for installation in the first forward position of the D412-698-031/-032/-033 kits to reduce wear on these forward brackets on aircraft equipped with composite doors.

The D412-698-027/-028/-037/-038 kits may be installed as follows:

- 1) Remove the sliding door from the aircraft per Section 52.1 of ICA-D412-698
- 2) Remove the first forward D3199-1 or D3675-1 brackets as applicable.
- 3) Install the D3199-3/-4 or D3675-5/-6 bracket as applicable in lieu of the removed -1 bracket. Refer to Figure 1 Sheet 2 (aluminum doors) or Figure 2 Sheet 3 (composite doors).
- 4) Torque hardware per ICA-D412-698.
- 5) Re-install sliding door on aircraft per Section 52.2/52.3 of ICA-D412-698 as applicable.
- 6) Make entry in technical records of aircraft indicating that DSI 9484 has been completed.

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SUBJECT TO AMENDMENT

WITHOUT NOTICE

WORK ORDER

NO. 77165 M.C.5

## PARTS LIST

QTY. -027	QTY. -028	QTY. -037	QTY. -038	PART NUMBER	DESCRIPTION
X				D412-698-027	BRACKET KIT, LH (ALUMINUM DOORS)
	X			D412-698-028	BRACKET KIT, RH (ALUMINUM DOORS)
		X		D412-698-037	BRACKET KIT, LH (COMPOSITE DOORS)
			X	D412-698-038	BRACKET KIT, RH (COMPOSITE DOORS)
1				D3199-3	FORWARD BRACKET, LH
	1			D3199-4	FORWARD BRACKET, RH
		1		D3675-5	FORWARD BRACKET, LH
			1	D3675-6	FORWARD BRACKET, RH

## WEIGHT AND BALANCE

Installation	Weight	Lateral		Longitudinal		Applicability
		Arm	Moment	Arm	Moment	
D412-698-027 Bracket Kit	0.16 lb 0.07 kg	-48.0 in -1.22 m	-7.68 in-lb -0.09 m-k	102.3 in 2.60 m	16.37 in-lb 0.18 m-k	Aircraft Equipped with P/N 205-032-669-XXX Aluminum Doors
D412-698-028 Bracket Kit	0.16 lbs 0.07 kg	+48.0 +1.22 m	+7.68 in-lb +0.09 m-k	102.3 in 2.60 m	16.37 in-lb 0.18 m-k	
D412-698-037 Bracket Kit	0.18 lb 0.08 kg	-48.0 in -1.22 m	-8.64 in-lb -0.10 m-k	102.3 in 2.60 m	18.41 in-lb 0.21 m-k	Aircraft Equipped with P/N 412-030-300-XXX Composite Doors
D412-698-038 Bracket Kit	0.18 lb 0.08 kg	+48.0 in +1.22 m	+8.64 in-lb +0.10 m-k	102.3 in 2.60 m	18.41 in-lb 0.21 m-k	

CANADA  
DEPARTMENT OF TRANSPORT  
AIRCRAFT CERTIFICATION  
BRANCH  
DAO # 01-Q-01

APPROVED

BY: *[Signature]*  
D. SHEPHERD (DE # 02)

DATE: 11.03.21  
CERT. NO.: SH92-43  
ISSUE NO.: 5

C	UPDATED -027/-028/-037/-038 KITS AND INSTALLATION	MB	11.03.21
B	ADDED -037/-038 KIT FOR COMPOSITE DOORS; UPDATED TITLE ACCORDINGLY.	MB	10.12.17
A	NEW ISSUE	<i>[Signature]</i>	09.10.16
REV.	DESCRIPTION	BY	DATE
DESIGN	<i>[Signature]</i>	<b>DART AEROSPACE LTD</b> HAWKESBURY, ONTARIO, CANADA	
DRAWN	<i>[Signature]</i>		
CHECKED	ASS	DRAWING NO.	REV. C
MFG. APPR.	N/A	DSI 9484	SHEET 1 OF 3
APPROVED	<i>[Signature]</i>	TITLE	SCALE
DE APPR.	<i>[Signature]</i>	D412-698-027/-028/-037/-038 Kits	NTS
DATE	11.03.21	COPYRIGHT © 2009 BY DART AEROSPACE LTD. THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE LTD.	

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

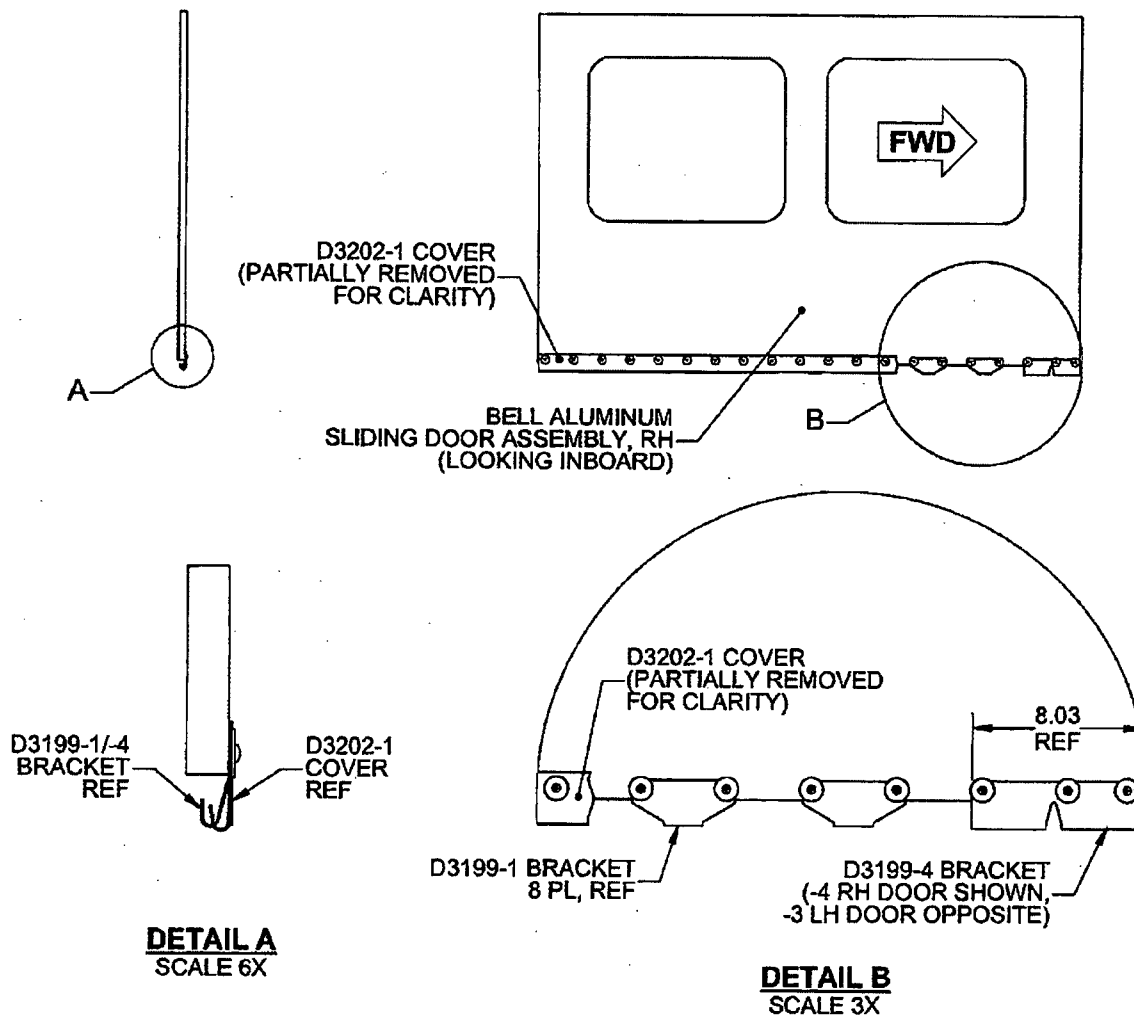
Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries









**FIGURE 1: D3199-3/-4 BRACKET INSTALLATION ON ALUMINUM DOORS**  
(-4 SHOWN, -3 OPPOSITE)

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BRANCH  
DAO # 01-O-01

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BY: *[Signature]*  
D. SHEPHERD (DE # 02)

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ISSUE NO.: 5

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MFG. APPR.	N/A	DSI 9484	SHEET 2 OF 3
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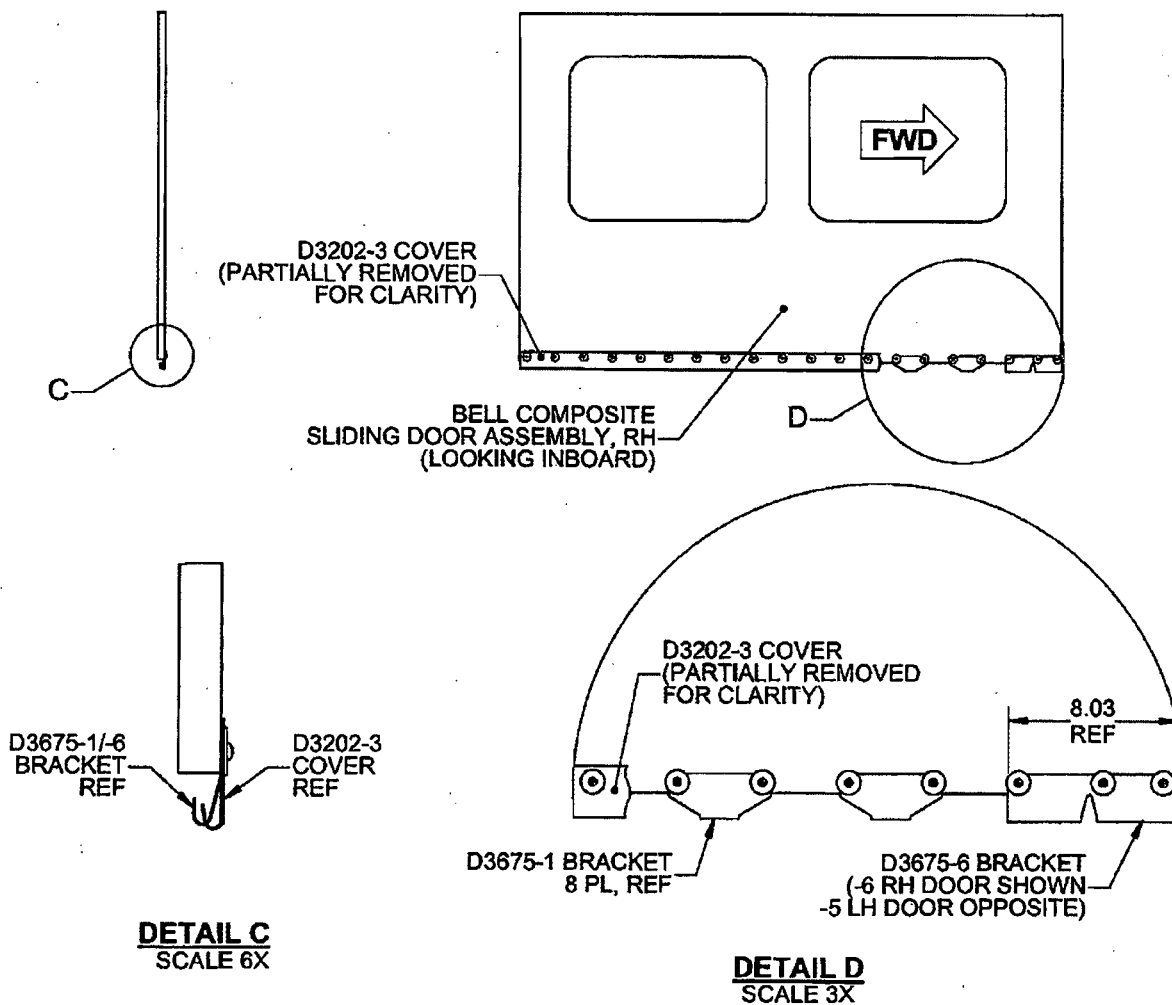
W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries









**FIGURE 2: D3675-5/-6 BRACKET INSTALLATION ON COMPOSITE DOORS**  
(-6 SHOWN, -5 OPPOSITE)

CANADA  
DEPARTMENT OF TRANSPORT  
AIRCRAFT CERTIFICATION  
BRANCH  
DAO # 01-O-01

APPROVED  
BY: *[Signature]*  
D. SHEPHERD (DE # 02)

DATE: 11.03.21  
CERT. NO.: SH92-43  
ISSUE NO.: 5

DESIGN		<b>DART AEROSPACE LTD</b>	
DRAWN		HAWKESBURY, ONTARIO, CANADA	
CHECKED		DRAWING NO.	REV. C
MFG. APPR.		DSI 9484	SHEET 3 OF 3
APPROVED		TITLE	SCALE
DE APPR.		D412-698-027/-028/-037/-038 Kits	NTS
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77165

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

REFERENCE ONLY

# DART SERVICE INSTRUCTION

TO AMEND INSTALLATION INSTRUCTIONS IIN-D412-698 REV. E OR LATER APPROVED REVISION  
AND ICA-D412-698 REV. 5 OR LATER APPROVED REVISION

REF. TCCA STC: SH92-43  
REF. FAA STC: SR01446NY  
REF. EASA.IM.R.S.00709

Field experience has shown that the forward D3199-1 brackets that are part of the D412-698-011/-012/-017 Cabin Door Roller Kits and forward D3675-1 brackets that are part of the D412-698-031/-032/-033 Cabin Door Roller Kits may wear prematurely if the aircraft is flown a significant amount of time with the sliding doors open. Dart has developed the D412-698-027/-028 kits that includes a longer D3199-3/-4 bracket for installation in the first forward position of the D412-698-011/-012/-017 kits to reduce wear on these forward brackets on aircraft equipped with aluminum doors. Likewise, Dart has developed the D412-698-037/-038 kits that includes a longer D3675-5/-6 bracket for installation in the first forward position of the D412-698-031/-032/-033 kits to reduce wear on these forward brackets on aircraft equipped with composite doors.

The D412-698-027/-028/-037/-038 kits may be installed as follows:

- 1) Remove the sliding door from the aircraft per Section 52.1 of ICA-D412-698
- 2) Remove the first forward D3199-1 or D3675-1 brackets as applicable.
- 3) Install the D3199-3/-4 or D3675-5/-6 bracket as applicable in lieu of the removed -1 bracket. Refer to Figure 1 Sheet 2 (aluminum doors) or Figure 2 Sheet 3 (composite doors).
- 4) Torque hardware per ICA-D412-698.
- 5) Re-install sliding door on aircraft per Section 52.2/52.3 of ICA-D412-698 as applicable.
- 6) Make entry in technical records of aircraft indicating that DSI 9484 has been completed.

## PARTS LIST

QTY -027	QTY. -028	QTY. -037	QTY. -038	PART NUMBER	DESCRIPTION
X				D412-698-027	BRACKET KIT, LH (ALUMINUM DOORS)
	X			D412-698-028	BRACKET KIT, RH (ALUMINUM DOORS)
		X		D412-698-037	BRACKET KIT, LH (COMPOSITE DOORS)
			X	D412-698-038	BRACKET KIT, RH (COMPOSITE DOORS)
1				D3199-3	FORWARD BRACKET, LH
	1			D3199-4	FORWARD BRACKET, RH
		1		D3675-5	FORWARD BRACKET, LH
			1	D3675-6	FORWARD BRACKET, RH

## WEIGHT AND BALANCE

Installation	Weight	Lateral		Longitudinal		Applicability
		Arm	Moment	Arm	Moment	
D412-698-027 Bracket Kit	0.16 lb 0.07 kg	-48.0 in -1.22 m	-7.68 in-lb -0.09 m-kg	102.3 in 2.60 m	16.37 in-lb 0.18 m-kg	Aircraft Equipped with P/N 205-032-669-XXX Aluminum Doors
D412-698-028 Bracket Kit	0.16 lbs 0.07 kg	+48.0 +1.22 m	+7.68 in-lb +0.09 m-kg	102.3 in 2.60 m	16.37 in-lb 0.18 m-kg	
D412-698-037 Bracket Kit	0.18 lb 0.08 kg	-48.0 in -1.22 m	-8.64 in-lb -0.10 m-kg	102.3 in 2.60 m	18.41 in-lb 0.21 m-kg	Aircraft Equipped with P/N 412-030-300-XXX Composite Doors
D412-698-038 Bracket Kit	0.18 lb 0.08 kg	+48.0 in +1.22 m	+8.64 in-lb +0.10 m-kg	102.3 in 2.60 m	18.41 in-lb 0.21 m-kg	

CANADA  
DEPARTMENT OF TRANSPORT  
AIRCRAFT CERTIFICATION  
BRANCH  
DAO # 01-O-01

APPROVED

BY: D. SHEPHERD (DE # 02)

DATE: 11.03.21  
CERT. NO.: SH92-43  
ISSUE NO.: 5

C	UPDATED -027/-028/-037/-038 KITS AND INSTALLATION	MB	11.03.21
B	ADDED -037/-038 KIT FOR COMPOSITE DOORS; UPDATED TITLE ACCORDINGLY.	MB	10.12.17
A	NEW ISSUE	<i>DE</i>	09.10.16
REV.	DESCRIPTION	BY	DATE
DESIGN	<i>DE</i>	<b>DART AEROSPACE LTD</b> HAWKESBURY, ONTARIO, CANADA	
DRAWN	<i>AS</i>		
CHECKED	<i>AS</i>	DRAWING NO.	REV. C
MFG. APPR.	<i>NA</i>	DSI 9484	SHEET 1 OF 3
APPROVED	<i>MD</i>	TITLE	SCALE
DE APPR.	<i>TH</i>	D412-698-027/-028/-037/-038 Kits	NTS
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